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ABSTRACT

The publication rates of female versus male faculty and factors that influence scholarly productivity for women faculty are discussed, based on the research literature. The academic reward structure and the payoffs resulting from scholarly productivity are also considered, along with the impact of productivity on building the reputations both of the institution and the individual. Although research indicates that publication is a primary means of reward and recognition in academia, findings related to female versus male publication rates have been inconsistent. A number of researchers have found that women tend to produce less than men. The literature suggests that causes for women's lower publication rates may be analyzed in terms of three categories: individual characteristics, characteristics of the job, and psychosocial characteristics. Individual characteristics include marital status, family obligations, and achievement motivation. Characteristics of the job that may influence women's publication rates include occupational location, higher teaching loads, and academic rank. One psychosocial influence is linked to the suggestion that women are more concerned with interpersonal relationships, whereas men focus more on individual achievements. Another area concerns overt and covert sex discrimination. (SW)

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WOMEN FACULTY AND SCHOLARLY PRODUCTIVITY

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The behavior of college faculty has fascinated researchers for years. Teaching effectiveness, scholarly productivity, and, to a lesser extent, service commitments, have been studied and reported on. Of these three areas, scholarly productivity, frequently thought of as dissemination of knowledge in written form, usually results in a tangible, measurable product. It has also received the most attention in the literature.

This visibility, however, is not the sole reason for the concern with productivity. Criteria for promotion and tenure emphasize this area and the "publish or perish" myth endures. If tenure and promotion are viewed as rewards within academia, then productivity may be seen as a critical element. In many situations, productivity may be considered as more influential than teaching effectiveness when faculty are evaluated.

A few years ago, Tidball (1976:380-383) reported on the results of the 1973 American Council on Education survey of 42,000 faculty. She concluded that "the male view of success is one which honors the research image of an institution and devalues the teaching image." Tidball compared males and females and goes on to state that "substantially larger percentages of women than men affirm that teaching effectiveness, rather than publications, should be the primary basis for promotion."

Therefore, if this male view is congruent with the institutional reward structure, then males might have an advantage over females in terms of tenure and promotion.

This paper begins with a look at the academic reward structure and the payoffs resulting from scholarly productivity. The inconsistent research findings related to female versus male publication rates will be briefly presented. The numerous explanations for the postulated lower productivity rates for female scholars will be reviewed. Finally, the impact of scholarly productivity on reputation building will conclude this discussion.

Rewards

Interwoven in the fabric of faculty folklore is the tenet that researchers are primarily motivated by the pursuit of truth. That is: the pursuit of knowledge for its own sake is its own reward (Newman, 1959).

While this internal drive may, indeed, impel some faculty members to action in terms of research and publication, others are more likely to respond to the external pressures inherent in the academic reward structure. The reward structure guides behaviors through both constraints and incentives (or, in other words, through the carrot and stick philosophy of management).

To the individual faculty member, there are both direct and indirect lifetime returns to publication. Direct returns include financial or salary rewards. Indirect returns involve such things as promotion, peer group recognition, personal satisfaction, and status attainment (Tuckman, 1976:84-90; Astin, 1978:133).

Publication Rates of Male and Female Faculty

It is evident that publication is a primary means of reward and recognition in academia. What is less discernible is the strength of sex as a correlate of publication. Research findings related to female versus male publication rates have been inconsistent.

For instance, in 1973, Guyer and Fidell concluded that there is no difference in the productivity of men and women psychologists. However, within their own report they also state that, while men and women perform similarly when they first enter academic careers, women publish significantly less than men at the two highest levels of academic appointment. This is disconcerting. The reader is left to wonder at the conclusions drawn by these researchers.

Reskin (1978), using longitudinal data on scientists' careers, found that, while men were slightly more productive than women, the differences were generally too small to attain statistical significance.

A larger number of researchers have found differences between males and females. Their unanimous conclusion: women tend to produce less than men.

Some confusion occurs, however, when reasons are proposed which try to explain these differences in productivity.

Why Women Publish Less Than Men

The literature suggests that the causes for women's lower publication rates may be analyzed in terms of three categories: individual characteristics, characteristics of the job, and psychosocial characteristics.

Individual Characteristics

Individual characteristics include marital status, family obligations, and achievement motivation.

Various researchers have disseminated dissimilar findings in relation to the correlation of marital status and productivity. For instance, Simon, Clark, and Galway (1969) agree with Astin (1978) that married women and men are alike in terms of productivity. In 1981, Helen Astin repeated the analyses that she had done for two of her earlier studies and concluded that:

> ...even though married women get off to a slow start in the early years of their careers - probably because they have greater family responsibilities at this time - they become more productive (i.e. publish more) over the years. In short, marriage as such does not, in the long run, make a difference in scholarly productivity (pg. 3)

Converse and Converse (1971) and Centra (1974) disagree with these findings. Converse and Converse found that, with political scientists, single women approach men's productivity levels after 25 years of experience but that married women continue at a lower

level. Centra also reported that married women had a lower level than single women and single men, who were equal.

Surprisingly, researchers have often found that there were no significant differences when the presence of children was added as a variable. In fact, Cole (1979) reported that:

> ...family obligations negatively influence the productivity rates only of women having three or more children. Women with smaller families are actually more likely to publish than unmarried women. For both sexes, the stability and routinization of work patterns associated with marriage are actually positively correlated with a higher publication rate. (pg. 66)

Cole concluded that family status alone cannot account for the differences in the rates of productivity of men and women scientists. He suggested that productivity will ultimately be explained by differences in motivation.

This motivation, also referred to as the need for achievement, is only beginning to be investigated as a possible predictor of faculty productivity. I am currently conducting a national survey of college and university faculty in order to learn about the relationship between differences in achievement motivation over the adult life cycle and faculty productivity. One of the primary limitations of my study is the use of cross-sectional data. Cross-sectional data may mask individual patterns of change. Unfortunately, few of the studies on faculty have used longitudinal data and may be only describing differences in cohort characteristics.

Characteristics of the Job

Characteristics of the job which may influence women's publication rates include occupational location, higher teaching loads, and academic rank.

The type of institution in which a faculty member is employed is correlated with both recognition and with productivity. Faculty employed in universities are generally more productive than those who work in colleges. Women faculty are found more frequently than men in colleges which emphasize teaching and in which research is neither the norm nor a prerequisite for promotion. This heavy teaching responsibility is bound to limit the time available for scholarly pursuits. In fact, even within universities, Astin and Bayer (1972:103) found that teaching loads are heavier for women. While the number of students is held constant, 63% of the women compared with 49% of men taught nine or more hours per week.

With regard to academic rank and resultant productivity, the literature is certainly replete with contradictions. For instance, Astin (1978) found gradually incremental productivity for all men and for married women from assistant to full professors. Single women, however, were most productive as assistant and associate professors and less productive as full professors. Behymer (1974:104); also see Blackburn, Behymer, and Hall, 1978) recorded that, for males, full and assistant professors had higher productivity than associate professors. Females, on the other hand, while also high as assistant professors, dropped in productivity as associate

and full professors.

As inconsistent as these data are, they are perhaps less confusing than the myriad psychosocial explanations suggested in the literature related to the status and productivity of females in academia.

Psychosocial Characteristics

One of the more familiar psychological theories related to the socialization and resultant achievement in women is that proposed by Matina Horner in 1968. The concept of fear of success has subsequently been addressed by numerous researchers who have "raised serious questions about the concept but have resolved very few" (Sassen, 1980:16). In a subsequent study (Veroff, McClelland, and Ruhland, 1975) in which several varieties of achievement motivation were identified, results indicated that not only were women low in fear of failure, but they were also high in hope of success!

An important breakthrough in the study of women's development may be found in the work of Carol Gilligan (1982). Gilligan's premise, essentially, is that men and women speak from distinct perspectives - in different voices. Neither one is "right" nor "wrong", merely different. Gilligan proposes that women's concern is with the nurturance of relationships whereas men's primary focus is on the attainment of individual achievements. Gilligan's theory might help to explain variance in productivity between men and women.

Another area which has received a lot of attention recently is that of sex discrimination - both overt and covert. Stereotypical attitudes about highly productive females may lead to perceptions that superproductive women are aggressive and threatening to men. Cole (1979) concluded that:

> There is no evidence that prolific women are systematically excluded from or pushed out of good science departments. But they are not nearly as likely to hold high-ranking positions within those departments as are their equally prolific male colleagues. (pg. 77)

In further exploring the social aspects of productivity, Astin (1981:20) suggests that women have been limited in their access to the informal communication networks traditionally available to men. However, women faculty may find that the present is a most favorable time in terms of expansion of opportunities for collaboration. A personal concern that I have had is the possible stigma attached to research on what is considered to be women's issues and subsequent publication in journals identified with gender research. This "free-floating anxiety" which I occasionally experience may stem from collegial responses from both male and female faculty. While we all know of exceptions, the predominant unspoken belief is that women are not always treated as colleagues by male faculty. This may or may not affect their publication rates.

More likely, the process of sponsorship, which probably begins during graduate school years, does affect later productivity. The role of sponsorship is a complex one and it is the "informal quality of the sponsorship system that is clearly the most important and indeed the hardest to capture in a quantitative analysis" (Cole, 1979:132). How do women fit into the sponsorship system? This question and many more subtle ones are currently being investigated. There is no doubt that sponsorship and mentoring are key predictors of faculty productivity.

What all of this adds up to is what has been termed accumulative disadvantage (Cole, 1979) and ultimately has an impact on a scholar's reputation.

Reputation Building

The reputation of a college or university is strongly correlated with the research productivity of its faculty. In addition, publications contribute to the reputation of an individual faculty member. "A widespread and esteemed reputation is among the most coveted, cherished, and well guarded of all awards" (Cole, 1979:92-93).

Reputation has multiple consequences for scholars. It is not only an intrinsic reward; it is also an exchangeable commodity for future opportunity and positional recognition. In other words, reputation building and productivity directly affect one another. The implications for female faculty are obviously powerful ones.

What conclusions can be drawn from these observations?

The rewards for publication are numerous. They include salary, promotion, personal satisfaction, and reputation. Generally, researchers have found that women faculty publish less than men. The suggested explanations for this lower productivity by females are, as a rule, inadequate and inconsistent. Data on I.Q.'s indicate that men and women have at least equal native ability. I believe that some of the publication differential may be ultimately explained by differences in motivation over the adult life cycle. This is an important problem because the universal standards upon which the academic reward structure is based may not be in harmony with reality.

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